

FURMAN. L., kand.sel'skokhozyaystvennykh nauk

Promoting efficient systems of agriculture, Nauka i pered.op.v
sel'khoz. 9 no.1:78-79 Ja '59. (MIRA 13:3)
(Agriculture)

FURMAN, L. L., and LEYN, A. M.

"Problems in the Theory of Broaching Rotation Bodies with Flat Broaches," p. 141
in Recent Developments in the Design of Metal-cutting Tools, Moscow, Mashgiz, 1958, 229
pp.

In this collection of articles results are presented of investigations
carried out at the chair of "Tool Making" of the Moscow Machine Tool and Tool
Making Inst. im. I. V. Stalin.

FURMAN, L.

23435 rezervy povysheniya proizvoditel'nosti truda v kauchukovodstve. sots.
sel. khoz - vo, 1949, No. 7, c. 47-53

SO: LETOPIS NO. 31, 1949

FURMAN, L. M.

"Problems of Organization and Payment for Work on Collective Farms,"
Moskva, Gos. izd-vo selkhoz lit-ry, 1951

FURMAN, L.M., kandidat sel'skokhozyaystvennykh nauk; NEVIADOMSKAYA, N.V.

Composite crews in the vicinity of Moscow. Nauka i pered.op. v
sel'khoz. 6 no.12:32-33 D '56. (MLRA 10:1)

(Moscow Province--Collective farms)

FURMAN, L.M., kand. sel'skokhozyaystvennykh nauk.

Feed supply and the cost of livestock products. Nauka i pered. op.
v sel'khoz. 7 no.10:40-43 0 '57. (MLRA 10:11)
(Feeding and feeding stuffs)
(Stock and stockbreeding)

FURMAN, L.M., kand.sel'skokhoz.nauk, obshchiy red.; BERGAUZ, R.I., red.;
GOR'KOVA, Z.D., tekhn.red.

[Economic efficiency of new methods of cultivating raw crops]
Ekonomicheskaya effektivnost' novykh sposobov vozdeleyvaniya
propashnykh kul'tur. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1958.
244 p. (MIRA 11:12)

(Tillage)

FURMAN, L.

FURMAN, L., kand. sel'skokhozyaystvennykh nauk

Inaccurate method. Nauka i pered. op. v sel'khoz. 8 no.1:61-62

Ja '58.

(MIRA 11:2)

(Collective farms--Accounting)

LEONOVA, N.A.; FURMAN, L.N.

Method for determining the total amount of coloring substances in
ammonium sulfate. Koks i khim. no.11:47 '63. (MIRA 16:12)

1. Yasinovskiy koksokhimicheskiy zavod.

FURMAN, M.

Experimental model with program control. Prof.-tekh.obr. 20
no.2:23 F '63. (MIRA 16:2)
(Agricultural machinery--Models)

FURMAN, Marian

Incarceration of Meckel's diverticulum in femoral hernia. Pol.
przegl. chir. 34 no.7:709-711 '62.

1. Z I Kliniki Chirurgicznej AM w Białymstoku Kierownik: zast. prof.
dr F. Olenski.

(FEMORAL HERNIA)

(MECKEL'S DIVERTICULUM)

MARSHALKOVICH, D.B., polkovnik meditsinskoy sluzhby; SACHENKO, N.L., podpolkovnik meditsinskoy sluzhby; BELOUSOV, G.G., podpolkovnik meditsinskoy sluzhby; NOVIKOV, I.I., mayor meditsinskoy sluzhby; FURMAN, M.A., mayor meditsinskoy sluzhby

Organization of work at a receiving and sorting section of a therapeutic hospital. Voen.-med. zhur. no.6:15-17 Je '61. (MIRA 14:8)
(HOSPITALS) (RADIATION SICKNESS)

ECRUBINOVSKAYA, N.M.; ZAKHAROVA, M.S.; ~~PODOLSKAYA, M.A.~~

Experience in the diagnosis of diseases caused by Mycoplasma pneumoniae. Vest. AMN SSSR 20 no.8:82-86 '65. (MIRA 18:9)

1. Institut epidemiologii i mikrobiologii imeni N.F.Gamalei AMN SSSR, Moskovskiy garnizonnyy gospi'tal' i Tsentral'nyy institut usovershenstvovaniya vrachev.

PORUBINOVSKAYA, N.M.; FURMAN, M.A.

Diseases caused by *Mycoplasma pneumoniae* in the U.S.S.R.;
serological and clinical data. Sov.med. 28 no.12:18-23 D
'65. (MIRA 18:12)

1. Otdel respiratornykh infektsiy (zav. - prof. M.S.Zakharova)
Instituta epidemiologii i mikrobiologii imeni N.F.Gamalei
(direktor - deystvitel'nyy chlen AMN SSSR prof. O.V.Baroyan)
i kafedra infektsionnykh bolezney (zav. - deystvitel'nyy
chlen AMN SSSR prof. G.P.Rudnev) Tsentral'nogo instituta
usovershenstvovaniya vrachey, Moskva.

FURMAN, M. I.

(Deceased)

(Hydraulic, Engineering)

See ILC

FURMAN, M.I.

Surface treatment of steel and iron castings by sulfur. Ltd. proizv.
no.10:43-44 O '60. (MIRA 13:10)
(Founding) (Diffusion coatings)

FURMAN, Marian

Tuberculosis of the gallbladder. Gruzlica 28 no.9:731-734 S '60.

1. Z I Kliniki Chirurgicznej A.M. w Białymstoku Kierownik:

Z-ca Prof. dr med. F.Olenski.

(TUBERCULOSIS case reports)

(GALLBLADDER dis)

Furman, M.Kh.

MIL'MAN, N.Ya., kandidat meditsinskikh nauk; FURMAN, M.Kh., subordinator

Case of calcified atypical papilloma of the vascular plexus of the
brain. Vest.rent.i rad. no.1:88-89 Ja-F '55. (MLRA 8:5)

1. Iz rentgenovskogo tsentra (zav. kandidat meditsinskikh nauk
N.Ya.Mil'man) Respublikanskoy klinicheskoy bol'nitsy (glavnyy vrach
M.G.Zagaraskikh), Kishinev.

(BRAIN, neoplasms,

papilloma, atypical calcified of vasc. plexus)

(PAPILLOMA,

brain, atypical calcified of vasc. plexus)

1ST AND 7TH EDITIONS

FURMAN, M.S.

2

Mechanism of the oxidation of NO. M. S. FURMAN.
J. Phys. Chem. (U.S.S.R.) 18, 386-8(1944).—Exptl.
data on various O₂-NO mixts. indicate that the reaction is
homogeneous as found by Bodenstein (C.A. 17, 2291; 16,
1806) rather than heterogeneous-homogeneous as proposed
by Stoddard (C.A. 33, 4113'). P. M. Rathmann

ASS. SLA METALLURGICAL LITERATURE CLASSIFICATION

E-T-A-S-E-T-A-S-E-T

CA FURMAN, M.S.

Pseudocatalytic oxidation of NO. M. S. Furman.
J. Phys. Chem. (U.S.S.R.) 18, 473 (1944). Addn. of
 0.1-0.5% of divinyl to a mixt. of N(1.5-3.0, O₂ 3-6, and
 N₂ 91-99% does not affect the rate of oxidation of NO.
 Larger concns. of divinyl form with this gas mixt. a nitro-
 site, C₄H₆N. Its formation explains Fulwiler's results.
 (C.I. 29, 7019). A photochem. detn. of NO₂ is described.
 I. I. Brikman

2

ASTM-35.0 METALLURGICAL LITERATURE CLASSIFICATION

FURMAN, M. S.

4c

A-1

Effect of adsorbed ammonia on the triboelectric potential of compressed gases. M. S. Furman, I. P. Bidorov, and J. S. Kazarnovskii (Compt. rend. Acad. Sci. U.R.S.S., 1944, 48, 302).—Triboelectric charges at high voltage arise when gases compressed at 800–900 atm. escape through a fine nozzle. Danger of puncture was eliminated by increasing the rate of flow of the charges; this is effected by the addition of NH_3 after the vessel had been treated with NH_3 . Initial treatment of the vessel with H_2S appears to exert a poisoning effect.
N. M. B.

State Inst. of Nitrogen Ind.

ASU SLA DETAILING LITERATURE CLASSIFICATION

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"Oxidation of Methane Under Pressure," by M. S. Furman and A. P. Shestakova, Khimicheskaya Pererabotka Neftyanykh Uglevodorodov (Chemical Conversion of Petroleum Hydrocarbons), Academy of Sciences USSR, Moscow, 1956, pp 344-351

Oxidation of methane at pressures of 50-500 atmospheres and at the temperature of 375° was studied. Comparison of the oxidation of methane at high pressures with oxidation at atmospheric pressure showed that methanol is the predominant product at high pressures while formaldehyde predominates at low pressures. It was established that increasing the pressure beyond 250 atmospheres does not result in any further increases in the yield of methanol. The effects of the temperature, the time during which the mixture of CH₄ and oxygen or air remains in the reaction zone, and the concentration of oxygen on the process of the oxidation of methane were investigated. Assumptions are made in regard to the nature of the effect which pressure exerts on the process of oxidation. (U)

Sum in 1451

USSR/ Physical Chemistry - Kinetics. Combustion. Explosives. Topochemistry.
Catalysis

B-9

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 11221

Author : Badriyan A.S., Furman M.S.

Inst : Academy of Sciences USSR

Title : Effect of Pressure on Formation of Intermediate Products of
Propane Oxidation

Orig Pub : Dokl. AN SSSR, 1956, 108, No 5, 861-863

Abstract : Oxidation of C_3H_8 with air at pressures of 5, 10 and 15 atm was carried out in a stainless steel reactor at 325, 350 and 375°. Increase in pressure above atmospheric favors the formation of alcohols, wherein the amount of CH_3OH formed exceeds that of C_2H_5OH . With increase in pressure the yield of alcohols increases. On the basis of a previously proposed scheme of oxidation (Semenov N.N., O nekotorykh problemakh khimicheskoy kinetiki i reaktsionnoy sposobnosti / On Some Problems of Chemical Kinetics and Reactivity /, Publication of the Academy of Sciences USSR, Moscow, 1954), the authors make the assumption that at a high pressure predominate bimolecular reactions of radicals C_2H_5O and CH_3O with C_3H_8 , which result in the formation of alcohols.

1/1

BADRIAN, A.S.; FURMAN, M.S., doktor khim.nauk

Investigating the kinetics and mechanism of propane oxidation
under pressure. Trudy GIAP no.7:79-100 '57. (MIRA 12:9)
(Propane) (Oxidation)

~~FURMAN~~ M.S.; doktor khim. nauk; SHESTAKOVA, A.D.

Investigating the mechanism of the oxidation of lower saturated hydrocarbons under pressure with the use of the carbon isotope of mass 14. Trudy GIAP no.8:63-68 '57. (MIRA 12:9)
(Hydrocarbons) (Oxidation) (Carbon--Isotopes)

FURMAN, M.S.; SHESTAKOVA, A.D.

Combined oxidation of hydrocarbons under pressure. Gaz. prom.
no.3:40-45 Mr '58. (MIRA 11:3)
(Hydrocarbons) (Oxidation)

FURMAN, M.S.; BARDIAN, A.S.; GOL'TYAYEVA, N.A.; SAVCHUK, S.N.

Oxidation of n-butane in the gaseous phase under pressure. Gaz. prom.
no.10:36-43 0 '58. (MIRA 11:11)
(Butane) (Oxidation)

5(3)

AUTHORS:

Furman, M. S., Shestakova, A. D.,
Arest-Yakubovich, I. L., Lyubitsyna, N. A.

SOV/20-124-5-34/62

TITLE:

Oxidation of n-Butane Solved in Acetic Acid by Air Under Pressure (Okisleniye n-butana v rastvore uksusnoy kisloty vozdukhom pod davleniyem)

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 5, pp 1083-1084 (USSR)

ABSTRACT:

Under relatively high temperatures (350-400°) the oxidation of butane in the gaseous phase results in an entire scale of oxygen-containing products (Refs 1-3). It has recently been pointed out (Refs 4-8) that the oxidation of n-butane under pressure in the liquid phase is much more selective and leads under milder conditions to valuable organic products: acetic acid, ethyl acetate, and methyl-ethyl ketone. This oxidation can be effected either below the critical temperature of butane ($T_c = 152^\circ$, Refs 4-5) or above the same, with the aid of solvents (Refs 6-8). The latter method seems to be more promising. The authors have chosen acetic acid as a solvent in which butane is soluble and which under the existing conditions is indifferent to oxidation and forms itself an oxidation product

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Oxidation of n-Butane Solved in Acetic Acid by Air
Under Pressure

SOV/20-124-5-34/62

of butane. Cobalt stearate was used as a catalyst. The experiment was carried out through six hours at various velocities of the air stream which served for oxidation. Figure 1 shows the results. They make the advantages of the oxidation above T_c apparent. Figure 2 contains statements on the influence of the catalyst on the process carried out at 60 atmospheric excess pressure and 165° . The catalyst increases the yield of useful products and directs the process toward a predominant formation of acetic acid. There are 2 figures and 8 references, 3 of which are Soviet.

ASSOCIATION: Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut azotnoy promyshlennosti (State Scientific Research and Design Institute for Nitrogen Industry)

PRESENTED: October 8, 1958, by S. I. Vol'fkovich, Academician

SUBMITTED: September 19, 1958

Card 2/2

FURMAN, M. S.

S/064/60/000/004/001/006
B015/B060

AUTHORS: Furman, M. S., Doctor of Chemical Sciences, Gol'dman, A. M.,
Candidate of Chemical Sciences, Olevskiy, V. M.,
Candidate of Technical Sciences, Ruchinskiy, V. R.

TITLE: Catalytic Oxidation of Cyclohexane With Compressed Air
by the Continuous Method

PERIODICAL: Khimicheskaya promyshlennost', 1960, No. 4, pp. 1-8

TEXT: I. M. Rozenfel'd, A. A. Lavrichenko, I. L. Vaysman, N. K.
Zhitnikova, and the personnel of the pilot plant of the Gubakhinskiy
khimicheskii zavod (Gubakha Chemical Works) took part in the work
described here. The said pilot plant was set up for the experiments
under discussion, and is schematically reproduced in Fig. 1. The long-
lasting continuous operation of this pilot plant for the oxidation of
cyclohexane with atmospheric oxygen under pressure yielded the following
results among others: At a pressure of 18-24 atm, a temperature of
130-140°C, and with cobalt stearate serving as a catalyst in a

Card 1/3

Catalytic Oxidation of Cyclohexane With
Compressed Air by the Continuous Method

S/064/60/000/004/001/006
B015/B060

concentration of 3 g per 100 l of cyclohexane, the conversion of cyclohexane amounts to 10-12% in one passage, and the yield of anone, anol, and adipic acid is 80-85% (of the reacted cyclohexane). Water and benzene reduce the oxidation rate. Slowing down the air supply improves the exploitation of oxygen. Apart from adipic acid there develop succinic, glutaric, and oxalic acids, with the part by weight of low dicarboxylic acids amounting to about 20% of the total amount of organic acids. The process of dehydrogenation of cyclohexanol (which was obtained by oxidation of cyclohexane) was studied on a continuously working pilot plant (Fig. 4) (with the assistance of V. U. Roshal'), and was compared with the results obtained from cyclohexanol produced from phenol (Table 1). On a pilot plant (Fig. 5) the authors worked out a scheme (Table 2) for separating the products obtained from the oxidation of cyclohexane. The products obtained corresponded, as to their quality, to the analogous products obtained in the production of caprolactam from phenol. N. I. Chernozhukov, S. E. Kreyn, K. I. Ivanov, I. V. Berezin, Ye. T. Denisov, N. M. Emanuel', A. I. Finkel'shteyn, Candidate of Chemical Sciences, and L. Kh. Freydlin are mentioned in the paper.

Card 2/3

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Catalytic Oxidation of Cyclohexane With
Compressed Air by the Continuous Method

S/064/60/000/004/001/006
B015/B060

Mention is made, moreover, of experiments of noncatalytic oxidation of
cyclohexane by means of air, carried out at the GIAP (State Scientific
Research and Planning Institute of the Nitrogen Industry) in the years
from 1948 to 1953. There are 2 figures, 4 tables, and 19 references:
14 Soviet, 3 US, 1 French, and 1 British.

✓

Card 3/3

FURMAN, M.S., doktor khim.nauk; GOL'DMAN, A.M., kand.nauk; OLEVSKIY,
V.M., kand.tekhn.nauk; RUCHINSKIY, V.R.; Prinimali uchastiye:
ROZENFEL'D, I.M.; LAVRICHENKO, A.A.; VAYSMAN, I.L.;
ZHITNIKOVA, N.K.

Catalytic oxidation of cyclohexane by air under pressure
by the continuous method. Khim.prom. no.4:265-272
Ja '60. (MIRA 13:8)
(Cyclohexane) (Oxidation)

07041

S/064/60/000/006/002/011
B020/B054

11.12.10

AUTHORS: Lubyanitskiy, I. Ya., Minuti, R. V., and Furman, M. S.
TITLE: Oxidation¹ of Cyclohexanol and Cyclohexanone by Nitric Acid
Under Pressure. Oxidation of Cyclohexanol by Nitric Acid
Under Pressure Without a Catalyst ¹

PERIODICAL: Khimicheskaya promyshlennost', 1960, No. 6, pp. 15-20

TEXT: The oxidation of cyclohexanol with nitric acid in the liquid phase to adipic acid was first performed by N. D. Zelinskiy who used ammonium vanadate as a catalyst. SeO_2 , salts of metals of variable valence, V_2O_5 , combined Cu^{2+} - ammonium-metavanadate catalysts, and ammonium-vanadate - sodium-nitrite catalysts were used later. Ye. N. Zil'berman, S. I. Suvorova, and Z. S. Smolyan (Ref. 10) studied the effect of additions of copper, ammonium vanadate, bismuth nitrate, and of the combined Cu-V catalyst. Further, the authors studied the positive effect of nitrogen oxides dissolved in nitric acid, of pressure (see the papers by S. S. Nametkin (Ref. 17) and M. I. Konovalov (Ref. 18)), of temperature

Card 1/3

85641

Oxidation of Cyclohexanol and Cyclohexanone
by Nitric Acid Under Pressure. Oxidation of
Cyclohexanol by Nitric Acid Under Pressure
Without a Catalyst

S/064/60/000/006/002/011
B020/B054

and concentration of the nitric acid, and of the quantitative ratio between the oxidized compound and the nitric acid. In the first step, the reaction temperature should be as low as possible. The temperature in the second step of oxidation has a considerable effect on the adipic acid yield. The reaction was conducted at an HNO_3 concentration of about 60%, a molar ratio of HNO_3 : cyclohexanol = 6, and a temperature of 55°C in the first step. The oxidation was performed in a 500-cm^3 stainless-steel autoclave. The determination of adipic, glutaric, and succinic acid in the mother liquor and the wash waters was made by means of partition chromatography on diatomite with the assistance of G. T. Levchenko and I. G. Solov'yeva. The pressure dependence of the reaction was investigated at pressures from 1 to 15 atm. In the pressure range 1-10 atm, the yield in adipic acid and liberated gas is not influenced by pressure. The adipic acid yield is slightly reduced at higher pressures. The pressure dependence of the yield in lower dicarboxylic acids is complicated, a distinct minimum occurring at 10 atm in glutaric and oxalic acid as well

Card 2/3

85641

Oxidation of Cyclohexanol and Cyclohexanone
by Nitric Acid Under Pressure. Oxidation of
Cyclohexanol by Nitric Acid Under Pressure
Without a Catalyst

S/064/60/000/006/002/011
B020/B054

as in CO_2 . The yield in succinic acid rises linearly with pressure. The pressure-dependence curve for the yield of the sum ($\text{NO} + \text{NO}_2$) shows the same course as that for glutaric and oxalic acid as well as CO_2 . On the basis of the reaction mechanism assumed, the consumption of nitric acid is calculated, and the results are compared with experimental data (Table 4). The reaction mechanism assumed was also confirmed by the calculated composition of the gaseous reaction products, and a number of theoretical and experimental data. There are 3 figures, 4 tables, and 24 references: 9 Soviet, 6 US, 5 British, 2 German, 1 Canadian, and 1 Austrian

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Card 3/3

Furman, M.S.

S/064/60/000/007/001/010
B020/B054

AUTHORS: Lubyanitskiy, I. Ya., Minati, R. V., and Furman, M. S.
TITLE: Oxidation of Cyclohexanol and Cyclohexanone by Nitric Acid
Under Pressure. Oxidation of Cyclohexanol by Nitric Acid
Under Pressure in the Presence of a Catalyst

PERIODICAL: Khimicheskaya promyshlennost', 1960, No. 7, pp. 1 - 5

TEXT: Nearly all publications concerning the use of catalysts for the oxidation of cycloalkanes and their derivatives are written in the form of patents. The mechanism of catalysis in this process is unclear. According to Ye. N. Zil'berman et al., Cu- and ammonium metavanadate ions have different effects on the yields of lower dicarboxylic acids. While the glutaric acid yield is reduced in the presence of Cu, the oxalic acid yield practically vanishes in the presence of ammonium metavanadate. These phenomena are also observed with the use of a combined catalyst; here, the adipic acid yield considerably exceeds the total attained with a separate use of Cu and ammonium metavanadate. The catalytic action of vanadic anhydride and ammonium metavanadate was also observed in

Card 1/4

Oxidation of Cyclohexanol and Cyclohexanone by Nitric Acid Under Pressure. Oxidation of Cyclohexanol by Nitric Acid Under Pressure in the Presence of a Catalyst S/064/60/000/007/001/010 B020/B051

oxidations of other cycloalkanes and aliphatic compounds with HNO_3 . All publications are in agreement as to the question of the catalyst dosage. In the present paper, the authors studied these problems by the example of oxidation of cyclohexanol with nitric acid, as well as the mechanism of action of the combined catalyst. 6,6-nitro-hydroxy-imino hexanoic acid (I) was synthesized as an intermediate to investigate the intermediate stages of the reaction; I was oxidized with nitric acid to adipic acid at 60-80°C. The optimum ratio of components was at an HNO_3 concentration of 55% and a molar ratio $\text{HNO}_3:\text{C}_6\text{H}_{11}\text{OH} = 3$; the temperature in the first reaction stage (introduction of raw material) was 60°C, and in the second stage (end of oxidation) 100°C. The total concentration of the catalyst was 0.01 moles/l each, while the ratio between the catalyst components was changed within the whole concentration range. Fig.1 shows the results of these experiments. The optimum molar ratio $\text{Cu}:\text{NH}_4\text{VO}_3$ is 1, while other authors stated 5.5. To investigate the

Card 2/4

Oxidation of Cyclohexanol and Cyclohexanone by Nitric Acid Under Pressure. Oxidation of Cyclohexanol by Nitric Acid Under Pressure in the Presence of a Catalyst S/064/60/000/007/001/010 B020/B054

stages of the process with the use of a catalyst, I was synthesized at concentrations of the combined catalyst of 0.005 moles/l, and a constant molar ratio $\text{Cu:NH}_4\text{VO}_3 = 1$. Fig.2 shows that the yield in I mainly depends on the concentration of the catalyst, a concentration between 0.01 and 0.03 moles/l being the optimum. In the oxidation of I with 67% HNO_3 at 60-80°C, I is quantitatively transformed to adipic acid (Table 1). The authors studied the stability of glutaric, succinic, and oxalic acid in boiling with 43% HNO_3 in the presence and absence of the catalyst, and give the results in Table 2. They investigated the effect of an over-pressure of 1-15 atmospheres on the oxidation of cyclohexanol with 60% HNO_3 . Fig.3 shows the pressure dependence of the yields in dicarboxylic acids and CO_2 , and Table 4 gives the mean yields in gaseous products per 1 mole of dicarboxylic acids. Fig.2 shows that the effect of the catalyst is only noticeable in the formation of I. Optimum over-pressure is 2-4 atm. The authors determined the reaction mechanism and the consumption of HNO_3 both theoretically and practically. G.I.Kostylev

Card 3/4

Oxidation of Cyclohexanol and Cyclohexanone S/054/50/000/007/001/010
by Nitric Acid Under Pressure. Oxidation of B020/B054
Cyclohexanol by Nitric Acid Under Pressure in the
Presence of a Catalyst ✓

and Ye. I. Ishchenko assisted in the experimental part of the investigation. There are 3 figures and 4 tables.

Card 4/4

LUBYANITSKIY, I.Ya.; MINATI, R.V.; FURMAN, M.S.

Oxidation of cyclohexanol and cyclohexanone by nitric
acid under pressure. Khim. prom. no. 6:453-458 8 '60.

(MIRA 13:11)

(Cyclohexanol) (Cyclohexanone) (Nitric acid)

LUBYANITSKIY, I.Ya.; MINATI, R.V.; FURMAN, M.S.

Oxidation of cyclohexanol and cyclohexanone by nitric
acid under pressure. Oxidation of cyclohexanol by nitric
acid in the presence of a catalyst. Khim. prom. no. 7:529-
533 O-N '60. (MIRA 13:12)
(Cyclohexanol) (Nitric acid)

LUBYANITSKIY, I.Ya.; KOSTYLEV, G.I.; FURMAN, M.S.

Oxidation of cyclohexanone and of its mixtures with cyclohexanol
by nitric acid under pressure without a catalyst. Khim. prom.
no. 7:533-537 O-N '60. (MIRA 13:12)
(Cyclohexanone) (Cyclohexanol) (Nitric acid)

S/064/61/000/001/001/011
3110/3215

AUTHORS: Furman, M. S., Shestakova, A. D., Arest-Yakubovich, I. L.

TITLE: Oxidation of n-butane in liquid phase under pressure

PERIODICAL: Khimicheskaya promyshlennost', no. 1, 1961, 6-11

TEXT: Oxidation of hydrocarbon in liquid phase takes place at lower temperatures (100-200°C) than in gaseous phase (350-400°C). The destruction of important oxidation products is thus excluded and the reaction is more selective. ✓
The main products of oxidation of n-butane in liquid phase are CH_3COOH ,

$\text{CH}_3\text{COOC}_2\text{H}_5$ and $\text{CH}_3\text{COOC}_2\text{H}_5$, whereas HCHO , CH_3CHO , CH_3OH , $\text{C}_2\text{H}_5\text{OH}$, CH_3COCH_3 , HCOOH , and CH_3COOH are formed in the gaseous phase. To accelerate the

reaction, n-butane is dissolved in acetic acid (main reaction product). Oxidation takes place above the critical temperature of $\text{n-C}_4\text{H}_{10}$ (152°C).

Pressure pipe (4) serves for conducting the oxidizing air into the acetic solution of n-butane contained in the reaction vessel (2) made of glass or

Card 1/3

Oxidation of n-butane in liquid...

S/064/01, 010/001/011
B110/B215

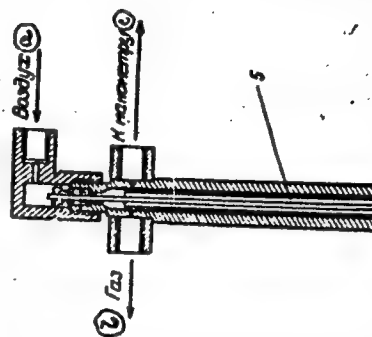
titanium, which had been put into the steel autoclave (1) (Fig. 2). After passing the reflux condenser, the reaction gases still contain 8 - 10% of butane. CO_2 , O_2 , CO , C_4H_{10} , and N_2 were determined in the gaseous reaction products, while CH_3COOH , $\text{CH}_3\text{COOC}_2\text{H}_5$, and H_2O were established in the liquid products. For maximum butane transformation in optimum yields of acetic acid, the following data were obtained by constant addition of 340 g of butane dissolved in acetic acid: ratio butane / acetic acid = 0.5 / 1 (Fig. 3); duration of experiment: 3 hr, reaction temperature 165°C, air supply 110 - 120 Nl/hr, amount of catalyst: 0.03 g of a solution of 0.018% of cobalt stearate in aqueous acetic acid. Pressure increase from 50 to 80 atm did not affect the composition of the reaction products but accelerated the reaction due to an increase in the O_2 concentration in the reaction zone. Optimum pressure was 60 atm. It was also found that intermediates of the oxidation such as $\text{CH}_3\text{COC}_2\text{H}_5$ and $\text{CH}_3\text{COOC}_2\text{H}_5$ do not inhibit the course of the reaction or reduce the yield of acetic acid. All the other solvents, except acetic acid, reduced the total exchange of butane. Two phases were

Card 2/3

Oxidation of n-butane in liquid...

S/064/61/000/001/001/011
B110/B215

obtained in the experiments by G. D. Yefremova and R. M. Koroleva conducted in the GIAP (State Institute of the Nitrogen Industry) on the state of the system butane - acetic acid - water, in which concentrations of acetic acid lower than 90% were used. The ratios butane/acetic acid of these two phases differed. An optimum ratio of 0.5 to 1 can only be guaranteed by concentrations of acetic acid exceeding 90% of the reaction liquid. Therefrom it follows that a 100% acetic acid is best suited as solvent. There are 5 figures, 5 tables, and 18 references: 9 Soviet-bloc and 9 non-Soviet-bloc.



Card 3/3

LUBYANITSKIY, I.Ya.; MINATI, R.V.; FURMAN, M.S. (Moscow)

Kinetics of conversion of 6,6-nitrohydroxyiminohexanoic acid to adipic acid. Zhur. fiz. khim. 36 no.3:567-574 Mr '62.

(MIRA 17:8)

1. Gosudarstvennyy institut azotnoy promyshlennosti.

FURMAN, M.S.

S/664/62/000/004/001/002
B101/3138

AUTHORS: Gol'dman, A. M., Candidate of Chemical Sciences,
Preobrazhenskiy, V. A., Sedova, S. M., Trubnikova, V. I.,
Furman, M. S., Doctor of Chemical Sciences

TITLE: Preparation of adipic acid by the nitric acid oxidation of
the products of cyclohexane oxidation in air

PERIODICAL: Khimicheskaya promyshlennost', no. 4, 1962, 7-11

TEXT: To synthesize adipic acid, experiments were conducted at the GIAP, in the nitric acid oxidation of: rectified cyclohexanol (I), crude cyclohexanol (II) consisting of 75% cyclohexanol and 25% X-oil (distillation residue from oxidation of cyclohexane in air), a mixture of 50% cyclohexanol + 50% X-oil (III), and 70% cyclohexanol + 30% X-oil. Reaction was obtained by adding the starting substance dropwise to 57% HNO₃ at 70°C, ratio HNO₃ (100%) : starting substance = 4.5 : 1, pressure 1-7 atm, copper-vanadium catalyst. Of the nitrous gases forming, NO and NO₂ can be regenerated to HNO₃ in the GIAP apparatus at 3.5-7 atm. After adding all the organic starting substance and completing the first state the mixture

Card 1/3

Preparation of adipic acid ...

S/064/62/000/004/001/002
B101/B138

was heated to 100°C and agitated for 30 mins. Then the product was drained from the vessel, and the adipic acid and lower dicarboxylic acids precipitated at room temperature were filtered off. The more readily soluble lower dicarboxylic acids were removed with distilled H₂O at 40°C. The mother liquor was analyzed chromatographically for adipic, glutaric, succinic, propionic, and acetic acids. Results: (1) C₆H₁₁OH synthesized from C₆H₅OH and from C₆H₁₂ yielded equal amounts of adipic acid: 1.29 g per g starting substance, but a larger quantity of other dicarboxylic acids was formed with C₆H₁₂. (2) At 3.5 atm (optimum) the adipic acid yield (g adipic acid per g starting substance) was ~1.42 with I, ~1.36 with II, ~1.13 with III. Nitric acid consumption was insignificant: (g HNO₃ per g adipic acid) 0.85 with I, ~0.87 with II, ~1.08 with III. (3) Saponification of the esters in the X-oil with 16% NaOH (250°C, 55 atm, 30 min) resulted in additional quantities of cyclohexanol and cyclohexanone, the oxidation of which increased the adipic acid total yield (by 0.149 g per g saponified X-oil (total adipic acid yield 0.71 g per g X-oil). The resultant high consumption of HNO₃ is explained by incomplete separation of the hydrocarbon solution and the alkali. The adipic acid obtained from

Card 2/3

Preparation of adipic acid ...

S/064/62/000/004/001/002
B101/B138

X-oil is yellowish to brownish, but can be purified by recrystallization or with activated carbon. (4) Adipic acid has been produced in an experimental plant by oxidation of II since March 1960, and the methods had been found technically satisfactory. There are 4 figures and 2 tables. The most important English-language references read as follows: Chem. Week, 79, 71 (1956); I. Kamlet, US Patent 2844626, 1958.

Card 3/3

GOL'DMAN, A.M., kand.khimicheskikh nauk; ZAYTSEV, A.I.; KOSTYLEV, G.I.;
LAKHMANCHUK, L.S.; LUBYANITSKIY, I.Ya., kand.khimicheskikh nauk;
PREOBRAZHENSKIY, V.A.; FURMAN, M.S., doktor khimicheskikh nauk;
Prinimali uchastiye: ZHADIN, B.V.; VESEL'CHAKOVA, T.L.; SEDOVA, S.M.;
TRUBNIKOVA, V.I.; KUPIN, M.I.; ZHUKOVA, Ye.I.

Preparation of adipic acid in a continuous pilot unit.

Khim.prom. no.5:323-327 My '62.

(Adipic acid)

(MIRA 15:7)

IVANOVSKIY, F.P., kand. tekhn. nauk, red.; FURMAN, M.S., doktor khim.nauk, red.; SAMARIN, B.P., red.; KRICHEVSKIY, I.R., prof., doktor khim. nauk, red.; GOLUBEV, I.F., doktor tekhn.nauk, red.; KRASIL'SHCHIKOV, A.I., doktor khim. nauk, red.; KLEVKE, V.A., kand. tekhn. nauk, red.; LEVCHENKO, G.T., kand. khim. nauk, red.; GEL'PERIN, I.I., kand. tekhn. nauk, red.; OYSTRAKH, M.L., red.; KREYSBERG, A.Ya., red.; TSUKERMAN, A.M., red.; KOGAN, V.V., tekhn. red.

[Chemistry and technology of the products of organic synthesis; intermediate products for the synthesis of polyamides] Khimiia i tekhnologiya produktov organicheskogo sinteza; poluprodukty dlia sinteza poliamidov. Moskva, Goskhimizdat, 1963. 255 p. (MIRA 17:3)

1. Moscow. Gosudarstvennyy nauchno-issledovatel'skiy i proyekt-nnyy institut azotnoy promyshlennosti. 2. Zamestitel' direktora Gosudarstvennogo nauchno-issledovatel'skogo i proyektnogo instituta azotnoy promyshlennosti (for Ivanovskiy). 3. Zamestitel' direktora po nauchnoy chasti Gosudarstvennogo nauchno-issledovatel'skogo i proyektnogo instituta azotnoy promyshlennosti (for Furman). 4. Glavnyy inzhener Gosudarstvennogo nauchno-issledovatel'skogo i proyektnogo instituta azotnoy promyshlennosti (for Samarin). .

ACCESSION NR: AT4033530

S/0000/63/000/000/0007/0017

AUTHOR: Furman, M. S. (Doctor of chemical sciences); Lipes, V. V.; Vinogradskaya, M. V.; Gol'tyayeva, N. A.

TITLE: Liquid phase oxidation of cyclohexane by atmospheric air at high temperatures

SOURCE: Poluprodukty dlya sinteza poliamidov (Intermediates for polyamide synthesis). Moscow, Goskhimizdat, 1963, 7-17

TOPIC TAGS: cyclohexane, cyclohexanol, cyclohexanone, cyclohexane oxidation, liquid phase oxidation, cyclohexane air oxidation, high temperature cyclohexane oxidation, cyclohexane oxidation kinetics

ABSTRACT: The kinetics of the liquid phase air oxidation of cyclohexane were studied in the absence of catalysts at temperatures of 160, 170 and 180C and pressures of 20, 35 and 50 atm. It was established that high temperature oxidation is of practical interest when the reaction lasts less than one hour. The ratio of cyclohexanol to cyclohexanone, resulting from the oxidation of cyclohexane, increases the temperature rises. The specific activation energy of the reaction was 3.5 to 5.5 kcal/mol at pressures of 20 to 50 atm. Oxidation at the indicated temperatures occurs in the diffusion area, i. e.

Card

1/2

ACCESSION NR: AT4033530

the rate of oxidation is not governed by the rate at which the reaction proceeds, but is determined by the rate of oxygen absorption in the cyclohexane. "The analyses were carried out by I. G. Solov'yeva by a method developed in the analytical laboratory of GIAP." Orig. art. has: 9 graphs and 2 tables.

ASSOCIATION: None

SUBMITTED: 12Oct63

DATE ACQ: 06Apr64

ENCL: 00

SUB CODE: CH

NO REF SOV: 016

OTHER: 007

2/2

Card

GOLLMAN, A.N.; LUBIANITSKIY, I.Ya.; SOLOVYOV, M.; TRUBENIK, V.I.;
POURAN, M.S.

Mechanism of catalysis of cyclohexane oxidation by $\text{K}_2\text{Cr}_2\text{O}_7$.
Zhur.prikl.khim. 37 no.7:1563-1569 1964.

1964 1964

L 17814-65 EWT(m)/EPF(c)/EWP(j) Pa-4/Pc-4/Pr-4 AFETR FM

ACCESSION NR: AP4043753

S/0064/64/000/008/0009/0014

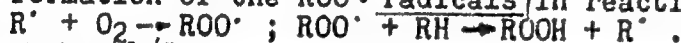
AUTHOR: Lipes, V. V.; Furman, M. S.

TITLE: Effect of component feed rate on kinetics of liquid phase cyclohexane oxidation

SOURCE: Khimicheskaya promyshlennost', no. 8, 1964, 9-14

TOPIC TAGS: cyclohexane, hydrocarbon, liquid phase oxidation, kinetics, reaction mechanism, component feed rate, cyclohexyl hydroperoxide, cyclohexanol, cyclohexanone, adipic acid, valeric acid, chain mechanism, monomolecular reaction mechanism, decarbonylation

ABSTRACT: The kinetics and mechanism of the liquid phase oxidation of hydrocarbons, specifically of cyclohexane, were investigated by studying the effect of reaction time on the composition of the oxidation products when a constant oxygen:cyclohexane feed ratio was maintained in a continuously circulating system. The liquid phase oxidation of cyclohexane is shown by the equations in the enclosure. The reaction products include cyclohexyl hydroperoxide B, cyclohexanol C, cyclohexanone D, adipic acid K, and small amounts of condensation and resinous products formed from the semialdehyde F, and of a monocarboxylic acid (valeric). The chain mechanism was proposed for the formation of the ROO· radicals in reactions I, III, IV and VII:



Card

1/5

L 17314-65

ACCESSION NR: AP4043753

The decomposition of cyclohexylhydroperoxide could be monomolecular or chain, II' or II''. The amounts of E and F formed were considered negligible. Analysis of the cyclohexane oxidation showed the composition of the oxidation products differed with reaction time. Although no rate constants were determined, the following qualitative relationships were observed: the cyclohexyl hydroperoxide and adipic acid content was reduced with prolonged reaction time, while the cyclohexanone, cyclohexanol and decomposition products of F increased. In oxidations run at 170 and 180C under 25 atmospheres in a continuously circulating system using a 0.92:1.3 mol/l oxygen:cyclohexane feed, as the feed rate increased, cyclohexyl hydroperoxide and adipic acid increased, cyclohexanol decreased, and cyclohexanone and the monocarboxylic acid remained essentially constant. Under these experimental conditions the alcohol was believed to have been formed by monomolecular reaction while the ketone was formed by a chain mechanism. Carbon monoxide formation increased with time--in 2-3 hours 30% of the oxygen was consumed for the formation of CO, due to decarbonylation only. The type of reactor had little effect on process kinetics.

Card 2/5

L 17814-65

ACCESSION NR: AP4043753

The sum of the useful products formed (B + C + D) goes through a maximum with reaction time: the commercial tendency to reduce reaction time results in reduction of product yield (fig. 1). It is believed similar relationships obtain for liquid phase oxidation of other hydrocarbons. Orig. art. has: 4 figures and 32 equations.

ASSOCIATION: None

SUBMITTED: 00

ENCL: 02

SUB CODE: GC, OC

NR REF SOV: 011

OTHER: 003

Card 3/5

L 17814-65
ACCESSION NR: AP4043753

ENCLOSURE: 01

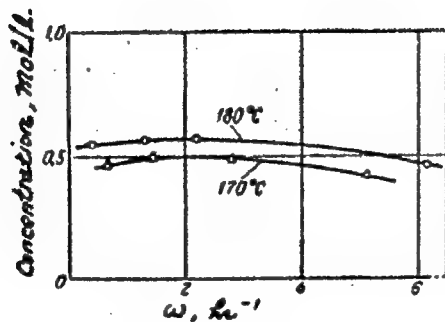


Figure 1

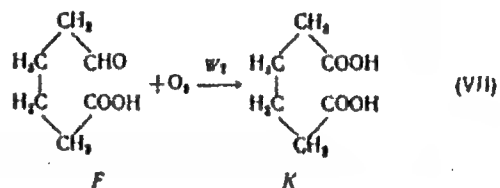
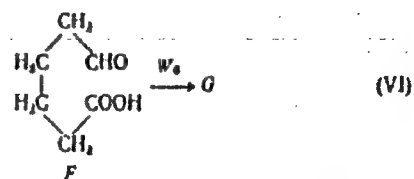
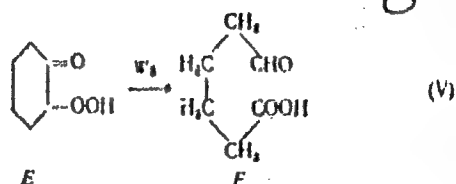
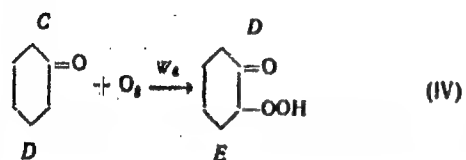
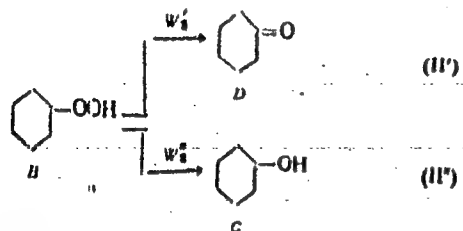
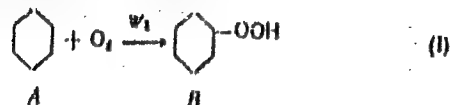
Effect of specific cyclohexane feed rate on total content of useful oxidation products (cyclohexyl hydroperoxide + cyclohexanone + cyclohexanol).

Card 4/5

L 17814-65

ACCESSION NR: AP4043753

ENCLOSURE: 02



Card 5/5

LIPES, V.V.; FURMAN, M.S.

Effect of the feeding rate of the components on the kinetics
of the liquid-phase oxidation of cyclohexane. Khim. prom.
40 no.8:569-574 Ag '64. (MIRA 18:4)

LIPES, V.V.; KAZANTSEVA, L.K.; GOL'TYAYEVA, N.A.; FURMAN, M.S.

Analyzing the composition of acids forming during the liquid-
phase oxidation of cyclohexane by air oxygen. Khim. prom.
40 no.9:668-671 S '64. (MIRA 17:11)

FURMAN, M.Sh.

Final conferences at the Irkutsk Hydrometeorological Observatory.
Meteor.i gidrol. no.7:58 J1 '61. (MIRA 14:6)
(Irkutsk Province—Meteorological research)
(Irkutsk Province—Hydrology—Research)

SOV/112-57-5-10531

Translation from: Referativnyy zhurnal, Elektrotehnika, 1957, Nr 5, p 143 (USSR)

AUTHOR: Shcherban', A., Furman, N.

TITLE: Equipment for Automatic Determination of Thermal Physical Constants
(Apparatura avtomaticheskogo opredeleniya teplofizicheskikh konstant)

PERIODICAL: Stroit. materialy, izdeliya i konstruktsii, 1956, Nr 3, pp 8-9

ABSTRACT: Determining the thermal physical characteristics of heat-insulating and construction materials by methods of the regular-condition theory is associated with the necessity of obtaining cooling curves of the body in question; this requires a constant-temperature medium and a differential thermocouple. As the specimen temperature usually does not exceed that of the ambient medium by more than 20-25°C, a mirror-type galvanometer is conventionally used for measurements. To simplify tests and to exclude subjective errors, it is suggested that a magnetic amplifier with a type SG recording millivolt-meter be used at the output end. A simplified circuit diagram of a simple-stage differential magnetic amplifier with an amplification factor 30 is presented.

M.A.K.

Card 1/1

VENDILOVSKIY, Vladimir Stepanovich; FURMAN, Nikolay Abramovich;
POL'SKIY, S., red.; STEPANOVA, N., tekhn. red.

[Manual for television owners] V pomoshch' teledzriteliu.
Minsk, Gos. izd-vo BSSR. Red. nauchno-tekhn. lit-ry, 1961. 121 p.
(MIRA 15:2)
(Television—Maintenance and repair)

FURMAN, N.I.

RABINOVICH, Z.L.; FURMAN, N.I.

Phase and frequency meter for extremely low frequencies. Shor.trud.
Inst.elektrotekh. AN USSR no.10:107-115 '53. (MIRA 8:5)
(Automatic control) (Electric measurements)

SHCHERBAN', Aleksandr Nazar'yevich; FURMAN, Neonil Israilevich; KUCHEROV,
P.S., redaktor; TITKOV, B.S., redaktor; SIVACHENKO, Ye.K., tekhnicheskii
redaktor

[Detecting and controlling methane in mines and industrial structures]
Obnaruzhenie i kontrol' metana v shakhtakh i promyshlennykh zdaniyakh.
Kiev, Izd-vo Akademii nauk USSR, 1955. 100 p. (MIRA 9:2)

1. Chlen-korrespondent AN U.S.S.R. (for Kucherov)
(Methane)

Shcherban' N.I.
SHCHERBAN', A.N.; FURMAN, N.I., inzhener; ZAYTSEV, V.I., inzhener;
ERENBURG, I.I., inzhener; BARZILOVICH, P.P., inzhener.

Automatic continuous duty methane testers. Bezop.truda v prom.
1 no.8:25-29 Ag '57. (MLRA 10:8)

1.Deystvitel'nyy chlen AN USSR (for Shcherban') 2.Institut
gornogo dela AN USSR (for Shcherban', Furman) 3. Zavod "Krasnyy
metallist" (for Zaytsev, Erenburg) 4.Glavukruglemash (for Barsilovich)
(Methane) (Gas detectors)

AUTHOR:

Furman, N.I.

21-58-5-14/28

TITLE:

Selection of Methane Constant for the Continuous Measurement of Fire-Damp (Vybor konstanty metana dlya nepreryvnogo izmereniya kolichestva rudnichnogo gaza)

PERIODICAL:

Dopovidi Akademii nauk Ukrainy, 1958, Nr 5, pp 523-527 (USSR)

ABSTRACT:

Automatic, continuously operating methanometers, with electric circuits for measuring the content of methane, are based on the determination of two methane constants: 1) its heat conductivity and 2) the temperature of the products of its flameless (heterogenous) burning. These two principles of methane determination are called "heat conductivity" and "thermal" principles, respectively. The author compares them with respect to sensitivity and the magnitude of errors, and arrives at a conclusion that the thermal principle is preferable in both respects. The advantage of the principle of measuring thermal properties of methane was especially noted by the Institute of Mining in connection with the design of a one-chamber methanometer, characterized by using methane as both a tested and standard gas. Devices of this type are now being mass-produced by the Konotop Electro-

Card 1/2

21-56-5-14/28

Selection of Methane Constant for the Continuous Measurement of Fire-Damp

mechanical plant "Chervonnyy metalist" and have been successfully employed in the mines of the Donbas. There are two diagrams and 4 references, 3 of which are Soviet and 1 French.

ASSOCIATION: Institut gornogo dela AN UkrSSR (Institute of Mining of the AS UkrSSR)

PRESENTED: By Member of the AS UkrSSR, A.N. Shcherban

SUBMITTED: November 13, 1957

NOTE: Russian title and Russian names of individuals and institutions appearing in this article have been used in the transliteration.

1. Methanes--Determination

Card 2/2

14(1)

SOV/21-59-2-8/26

AUTHOR: Furman, N.I.

TITLE: The Analysis of Temperature Dependences in the Reaction Chamber of a Thermocatalytic Mine Gas Meter (Analiz temperaturnykh zavisimostey v re-aktsionnoy kamere termokataliticheskogo datchika rud-nichnogo gaza)

PERIODICAL: Dopovidi Akademii nauk Ukrain's'koi RSR, 1959, Nr 2, pp 143-148 (USSR)

ABSTRACT: This article presents experimental-analytical data on the dependences of sensitive elements of a single chamber thermocatalytic mine gas meter, the application of which replaces the forced circulation of mine gas through the reaction chamber of the meter by natural circulation. The article contains a few equations for the calculation of such dependences, and shows the functional connection between the temperature of thermometric resistances and the temperature of their thermocatalysts on the one hand,

Card 1/2

SOV/21-59-2-8/26
The Analysis of Temperature Dependences in the Reactive Chamber
of a Thermocatalytic Mine Gas Meter

and between the temperature and the heat transmission coefficient and the consumed power on the other hand. It examines and proves the statements, that the temperature in the chamber is conditioned by the influence of thermocatalytic resistance H_r and by the influence of thermometric resistance R_r . There are 2 graphs, 1 diagram, and 3 references, 2 of which are Soviet, and 1 English.

ASSOCIATION: Institut teploenergetiki AN UkrSSR (Institute of Thermoenergetics of the AS UkrSSR)

PRESENTED: By A.N. Shcherban, Member of the AS UkrSSR

SUBMITTED: November 22, 1958

Card 2/2

AUTHOR: Furman, N.I.

SOV/21-59-3-10/27

TITLE: An Analysis of the Thermal Effect of Steady Fire-damp Current in the Reaction Chamber of a Thermocatalytic Transmitter (Analiz termoeffekta ustanovivshegosya potoka rudnichnogo gaza v reaktsionnoy kamere termokatalitichskogo datchika)

PERIODICAL: Dopovidi Akademii nauk Ukrain's'koi RSR, 1959, Nr 3, pp 270-276 (USSR)

ABSTRACT: The article presents the results of a study of the dependences of temperatures of the sensitive elements of a single-chamber thermocatalytical transmitter on the percentage of methane in a set and steady fire-damp current. The author shows that this dependence is of an exponential nature, the power exponents of the temperature accretions of the thermometric and thermocatalytic resistances being close to each other. Two formulae (6 and 8) can be used for calculating the accretion of the temperature of catalysts Hr (active) and the temper-

Card 1/2

SOV/21-59-3-10/27

An Analysis of the Thermal Effect of Steady Fire-Damp Current in the Reaction Chamber of a Thermocatalytic Transmitter

ature of thermometrical resistance R_r , upon the degree of concentration of methane in the reaction chamber. The transmitter employed in the author's experiments showed an optimum work regime at 10 watt. There are 2 graphs, 1 diagram, 2 photos and 5 references, 3 of which are Soviet, 1 English and 1 German.

ASSOCIATION: Institut teploenergetiki AN UkrSSR (Institute of Thermal Power Engineering of the AS UkrSSR)

PRESENTED: November 24, 1958, by A.N. Shcherban', Member of the AS UkrSSR

Card 2/2

SHCHERBAN', A.N., akademik; BUTAYEV, O.A.; FURMAN, N.I.; TERENT'YEV, N.F.

Automatic methane indicator for gas reducer plants and compressor
stations of main gas pipelines. Gas. prom. 4 no.4:42-45 Ap '59.

(MIRA 12:6)

(Gas, Natural--Pipelines) (Gas detectors)

FURMAN, N. I., Cand Tech Sci -- (diss) "Research into instrumental agents for the continuous control of methane in mine atmospheres." Kiev, 1960. 25 pp with illustrations; (Ministry of Higher and Secondary Specialist Education Ukrainian SSR, Dnepropetrovsk Order of Labor Red Banner Mining Inst im Artem); 150 copies; price not given; (KL, 17-60, 160)

FURMAN, N. I., and SHCHERBAN', A. N.

"Automatic Apparatus for Quick Determination of Thermal Constants of
Building Materials and Rocks by the Method of Regular
Regime."

Report submitted for the Conference on Heat and Mass Transfer,
Minsk, BSSR, June 1961.

SHCHERBAN', A.N. (Kiyev); FURMAN, N.I. (Kiyev)

Analysis of thermal transient processes in electrical networks
with concentrated active loads. Izv. AN SSSR. Otd. tekhn. nauk.
Energ. i avtom. no.3:216-221 My-Je '62. (MIRA 15:6)
(Electric networks)

SHCHERBAN', A.N. [Shcherban', O.N.], akademik; FURMAN, N.I.

Determination of the increase in temperature of the catalyst
during the flameless combustion of methane. Dop. AN URSR no.8:
1057-1061 '62. (MIRA 18:2)

1. Institut teploenergetiki AN UkrSSR. 2. AN UkrSSR (for
Shcherban').

S/526/62/000/024/001/013
D234/D308

AUTHORS: Shcherban', O.N. and Furman, N.I.

TITLE: Investigation of non-stationary temperature conditions in flameless contact combustion of methane

SOURCE: Akademiya nauk Ukrayins'koyi RSR. Instytut teplocnerhetyky. Zbirnyk prats'. no. 24, 1962, Teploobmin ta hidrodynamika, 3-12

TEXT: The investigation was carried out on the heat conversion unit of the single-chamber pickup for combustible gases used in automatic gas analyzers IM-2, IM-3, IMT-1 (IM-2, IM-3, IMT-1). A measuring and a compensating resistance thermometer are placed in an explosion-proof chamber; a catalyzer heater is placed under each of them. Methane is burned only in the heater under the measuring thermometer. Equations are deduced for heating and cooling processes of thermometers and catalyzers after switching on and off; for temperature difference between the catalyzers in the transient process (seven possible versions of the latter are plotted); for the

Card 1/2

Investigation of non-stationary ...

S/526/62/000/024/001/013
D234/D308

transient process of methane combustion. The last equation is only qualitatively correct, giving too low value for the inertness. For this reason the time of stabilization of the catalytic combustion reaction is more essential than that of heating of the catalyzer, but the reaction can only be investigated experimentally. Oscillograms of the transient processes are given. Conclusions: the time constant of the transient processes of measuring elements is much smaller than that of the catalyzers. There are 7 figures. ✓

Card 2/2

BARATOV, E.I., kand.tekhn.nauk; FURMAN, N.I., kand.tekhn.nauk

Bore-hole thermometer for mines. Ugol'.prom. no.4:78-79
Jl-Ag '62. (MIRA 15:8)

1. Institut teploenergetiki AN UkrSSR.
(Thermometers)

SHCHERBAN', A.N.; FURMAN, N.I.; TARASEVICH, V.N.; NATANZON, Ya.V.;
ERENBURG, I.I.

Thermopile groups of a single-chamber thermocatalytic transducer for the IM-2, IM-3, DMT-1, IM-3M, and AMT-2 automatic mine methanometers. Ugol' Ukr. 7 no.4:20-22 Ap '63.
(MIRA 16:4)

1. Institut teploenergetiki AN UkrSSR (for Shcherban', Furman, Tarasevich, Natanzon). 2. Zavod "Krasnyy metallist" (for Erenburg).

(Mine gases—Measurement) (Transducers)

ACCESSION NR: AP4020319

S/0302/64/000/001/0047/0050

AUTHOR: Shcherban', A. N. (Academician); Furman, N. I. (Candidate of Technical Sciences); Primak, A. V.; Belogolovin, N. S.; Tarasevich, V. N.

TITLE: High-stability transmitter for a frequency-type telemeter with a weak-signal sensor

SOURCE: Avtomatika i priborostroyeniye, no. 1, 1964, 47-50

TOPIC TAGS: telemeter, frequency type telemeter, telemeter sensor, telemeter weak signal sensor, telemeter transmitter, frequency type telemeter transmitter

ABSTRACT: The development of two versions of a new transmitter: (a) with a magnetic d-c amplifier and (b) with a semiconductor d-c amplifier, is reported. The magnetic amplifier was invented by A. N. Shcherban', R. A. Kaplan, and A. V. Primak (Author's Certificate no. 153676). A controlled transistorized LC oscillator is used as a source for supplying a differential magnetic amplifier which, in turn, controls the oscillator frequency. The sensor frequency may vary from d-c to 1,000 cps. Laboratory tests demonstrated the frequency

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ACCESSION NR: AP4020319

stability at 0-60C ambient temperature and -25%+10% variation in the supply voltage. An IM-3 methane indicator was used as a sensor. However, "the use of the transmitting device in mines was hampered by the complexity of the magnetic amplifier, difficulty in its alignment, large size, and considerable inertia which caused a frequency-conversion collapse on rapidly varying signals." Hence, a semiconductor amplifier was developed instead; input impedance, 230 ohms; load impedance, 60 ohms; input current, 61 microamp; output current, 4 ma; $K_p = 65$; $K_c = 1,200$. The transmitting device is being adapted for IM-3 and AMT-2 methane monitors at the "Krasnyy metallist" Electromechanical Plant, Konotop. Orig. art. has: 4 figures and 1 formula.

ASSOCIATION: Institut teploenergetiki AN UkrSSR (Institute of Thermal-Power Engineering, AN UkrSSR)

SUBMITTED: 00

DATE ACQ: 31Mar64

ENCL: 00

SUB CODE: CG, IE

NO REF SOV: 001

OTHER: 000

Card 2/2

SHCHERBAN', A.N. [Shcherban', O.N.], akademik; FURMAN, N.I.; TARASEVICH, V.N.
[Tarasovych, V.M.]

Analytic and experimental research of nonsteady-state thermal
resistance in the power supply circuit. Dop. AN URSR no.1:49-
53 '65. (MIRA 18:2)

1. Institut tekhnicheskoy teplofiziki AN UkrSSR. 2. AN UkrSSR
(for Shcherban').

PRIMAK, A.V., inzh.; FURMAN, N.I., kand.tekhn.nauk; SHEHERBAN', A.N., doktor
tekhn.nauk, prof.

Controlled high-stability IC oscillator with a low threshold
of response. Priborostroenie no.3:20-22 Mr '65.

(MIRA 18:4)

SHCHERBAN', A.N. [Shcherban', O.N.], akademik; FURMAN, N.I.; TARASEVICH, V.H.
[Tarasevych, V.M.]

Analysis of thermal transients in concentrated active loads of
electric circuits at $I = \text{const.}$ Dop. AN URSR no.9:1172-1175 '65.
(MIRA 18:9)

1. Institut tekhnicheskoy teplofiziki AN UkrSSR. 2. AN UkrSSR
(for Shcherban').

L 33322-66 EWT(1)
ACC NR: AP6021782

SOURCE CODE: UR/0413/66/000/012/0048/0048

INVENTOR: Shcherban', A. N.; Furman, N. I.; Grishko, V. G.

ORG: none

TITLE: Ferro-transistor multivibrator. Class 21, No. 182765

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 12, 1966, 48

TOPIC TAGS: pulse oscillator, multivibrator

ABSTRACT: The Author Certificate has been issued for a multivibrator design using two transistors whose bases are magnetically coupled. The magnetic circuit consists

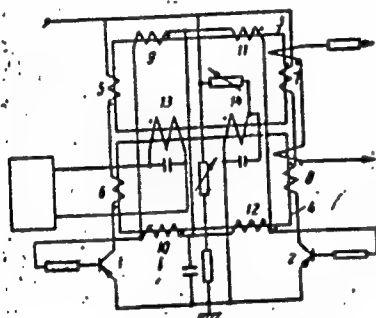


Fig. 1. Multivibrator circuit

1,2 - Transistors; 3,4 - cores; 5,6,7,8 - collector split windings; 9,10,11,12 - base split windings; 13 - control winding; 14 - bias winding.

Card 1/2

UDC: 621.373.52

L 33322-66

ACC NR: AP6021782

of two equal cores each having half the total number of windings in each transistor collector and base circuits. Each half winding in the collector circuits is connected in series, and in parallel in the base circuits. Each core is wound with a common control and bias winding. This configuration permits the repetition frequency of the multivibrator pulses to be variable while the shape of the pulses remains undistorted (see Fig. 1). Orig. art. has: 1 figure. [BD]

SUB CODE: 09/ SUBM DATE: 05Apr65/ ATD PRESS: 5026

Card 2/2 ULR.

ACC NR: AP7004652 (A, N) SOURCE CODE: UR/0432/66/000/001/0018/0020
(Academician)

AUTHOR: Shcherban', A. N.; Furman, N. I. (Candidate of technical sciences);
Grishko, V. G.; Belogolovin, N. S.

ORG: none

TITLE: Telemetric frequency meter with increased sensitivity

SOURCE: Mekhanizatsiya i avtomatizatsiya upravleniya, no. 1, 1966, 18-20

TOPIC TAGS: frequency meter, telemetry equipment, transistorized circuit

ABSTRACT: A frequency meter, originally designed for use as a receiver of telemetric signals when measuring methane concentration in mines, is described. The transistorized meter circuitry consists of an input voltage converter and a capacitive pulse shaper. The converter includes a two-stage pre-amplifier and a magnetic multivibrator. The pre-amplifier synchronizes the multivibrator with the received frequency. The pulse shaper is a full-wave bridge rectifier consisting of two capacitors and four diodes. Some of the meter parameters are: operating frequency, 2—3 kc; minimum input signal amplitude, 10 mv; output power, 3 mw; supply voltage, 15 v; maximum measurement error, 15%; and temperature characteristics, flat from 5—50C. The meter, developed by the Institute of Technical Thermophysics of the Academy of Sciences USSR, can be used to measure frequencies in telemetry systems or for direct frequency measurements. Orig. art. has: 1 figure. [IV]

SUB CODE: 14, 09/ SUBM DATE: none/ SOV REF: 002
Card 1/1 UDC: 621.317.761

ACC NR: AP7009071 SOURCE CODE: UR/0413/67/000/003/0047/0047

INVENTOR: Furman, N. I.; Shcherban', A. N.; Grishko, V. G.; Primak, A. V.;
Belogolovin, N. S.; Chopovskiy, Yu. I.

ORG: None

TITLE: A frequency meter for telemetry. Class 21, No. 190968

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 3, 1967, 47

TOPIC TAGS: telemetry, frequency meter, magnetic amplifier, positive feedback,
electronic feedback

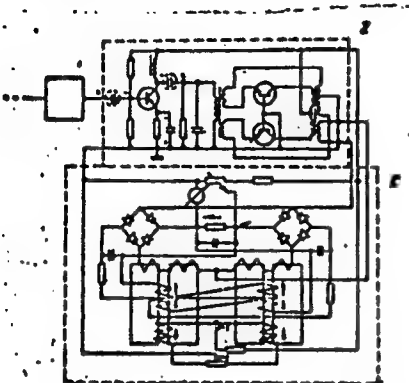
ABSTRACT: This Author's Certificate introduces: 1. A frequency meter for telemetry. The unit is based on the mutual effect of two magnetic fluxes in a magamp: the variable flux produced by a sinusoidal AC input signal and a constant flux produced by current from an independent power supply with bridge rectifiers. To increase accuracy and make provision for monitoring the operation of the transmission channel, the installation contains a square pulse buffer generator with a natural frequency below the "zero" frequency of the signals being transmitted. The generator input is connected to the transmission channel through a synchronizing stage, while the output is connected to the AC winding of the magamp. 2. A modification of this frequency meter with automatic temperature compensation. One end of each of the two circuits of the external positive feedback windings in the magnetic amplifier is connected to the negative output of the bridge rectifiers for left and right cycles respectively tied into the AC circuit of

Card 1/2

UDC: 621.317.761:621.398

ACC NR: AP7009071

the signal to be measured. The other ends of the feedback windings are connected to the positive output of the bridge rectifiers for right and left cycles respectively, and interconnected through a resistor. The feedback windings for right and left cycles are connected in opposition.



1--magnetic amplifier; 2--square pulse generator

SUB CODE: 09/ SUBM DATE: 22Jul64

Card 2/2

FURMAN, O. A.

✓R502. Treatment of acute uncomplicated male gonorrhea with exmonovocillin and penicillin with clemoline and novocaine. M. N. Zhonnikov and O. A. Furman *Vestn. Voen. Med.*, 1958, No. 5, 41-43; *Referat. Zh. VVS*, 1958, Abstr. No. 79427. Two-fold intramuscular administration of penicillin (200,000 units) in combination with clemoline (1 ml) and novocaine (1 ml 1% soln) at an interval of 12 hr, is shown to be effective in the treatment of gonorrhea (117 patients). A single administration of exmonovocillin (300,000 units) is followed by norsulphazole (128 patients). (Russian)

med 2

SYERDLOVSK. SM. RE. DERMATO VENEREOL. INST.

USSR/Microbiology - Microorganisms Pathogenic to
Humans and Animals

F-3

Abs Jour: Ref Zhur - Biol., No 18, 1958, 81596

Author : Bakhireva, A.V., Furman, O.A.

Inst : -

Title : A Method of Cultural Diagnosis of Epidermophy-
tosis.

Orig Pub: Vestn. dermatol. i venerol., 1957, No. 3, 20-21

Abstract: In diagnosis of epidermophytosis it is advisable
to inoculate the pathological material (skin
scales, nails) on a Saburo medium to which bio-
mycin (100 units per ml) has been added, which
increases the degree of growth of the causative
agent. Of 51 incubations of nails in which the
mycelium was detected microscopically, the
growth on a normal medium was found only in one

Card 1/2

USSR/Microbiology - Microorganisms Pathogenic to
Humans and Animals

F-3

Abs Jour: Ref Zhur - Biol., No 18, 1958, 81596

incubation, but in 35.5% of the cases on a
medium with an antibiotic. On a medium with
biomycin, incubations of skin tissues produced
growth in 86.2% of the cases; incubation of
samples in which the fungus was not found upon
microscopy, in 16.8%. In the presence of bio-
mycin in the nutrient medium a more rapid
development of epidermophytosis takes place. --
M.I. Nakhimovskaya

Card 2/2

FURMAN, P. M., Cand Tech Sci -- ^{Bottom lands} ~~Water-meadow soils~~ of Poltava
River and ^{possibilities} ~~potentialities~~ of their utilization ^{for} ~~under~~ potato ~~cultivation~~
under the conditions of L'vovskaya Oblast." Kiev, 1961.
(Min of Agr UkSSR. Ukrainian Acad Agr Sci) (KL, 8-61, 255)

FURMAN, P.Yu., red.; ZAZUL'SKAYA, V.F., tekhn. red.

[Regulations for the use, storage and selection of automobile tires for reconditioning] Pravila ekspluatatsii, khraneniia i otbora avtomobil'nykh shin dlia vosstanovleniia. Moskva, Goskhimizdat, 1962. 35 p. (MIRA 15:12)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po khimii.
(Tires, Rubber)

ANIKANOVA, K.F.; ZAKHAROV, S.P.; SELEZNEV, I.I.; FURMAN, P.Yu., red.;
ZAZUL'SKAYA, V.F., tekhn. red.

[Tires for tractors, tractor trailers, and agricultural
machines; reference materials] Shiny dlia traktorov, traktornykh
pritsepov i sel'skokhoziaistvennykh mashin; spravochnye materi-
aly. Moskva, Goskhimizdat, 1963. 51 p. (MIRA 16:4)
(Agricultural machinery—Tires)

MESULOVIN, L.Ya., inzh; MOROZENSKIY, Ye.M., inzh.; GAVENDO, I.Ya., inzh.;
FURMAN, R.Kh., inzh.

Equipment for the transmission and reception of information
using a multifrequency code. Vest. svyazi 25 no. 11:3-6
N '65. (MIRA 18:12)

1. Gosudarstvennyy elektrotekhnicheskiy zavod (VEF), Riga.